

CHAPTER I

SUMMARY OF ACTIVITIES

The District established an ambitious schedule of activities in its 2000 update of the DWMP. This schedule called for activities in each of the areas of responsibility in the years following the plan's acceptance. The District has, for the most part, adhered to the schedule of activities described in the DWMP.

The 2000 update of the DWMP described 153 major activities on which the District would be working on starting in FY 2001. Of these, 92 are described as ongoing activities with no fixed end date. Of the remaining 61 activities, 6 are complete, 35 are on schedule, 5 have been discontinued and 15 are behind the schedule that is described in the 2000 update of the DWMP.

The tables that follow summarize the progress the District has made on the activities described in the DWMP. Unless otherwise stated, activity summaries cover the period from October 1, 2001 through September 30, 2002, along with any significant accomplishments. The tables are organized by the four areas of responsibility:

- A. Water Supply
- B. Flood Protection and Flood Plain Management
- C. Water Quality
- D. Natural Systems Management

Each program has been described in the DWMP and in this report within the area of responsibility that is the primary function of the respective program. In both philosophy and practice, however, the District recognizes the multi-functional, multi-disciplinary nature of water management in South Florida. The four areas of responsibility are highly interrelated and the complex interactions are carefully considered within each program and activity. Accordingly, activities may focus on one area of responsibility but have implications in multiple areas of responsibility.

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Part A. Water Supply

The water supply portion of the DWMP addresses two core water supply objectives:

Core Objective WS 1: Increase available water supplies and maximize overall water use efficiency to meet identified existing and future needs

Core Objective WS 2: Prevent contamination of water supplies

Table 1. The FY 2002 Status of the DWMP Water Supply Activities

| Activity | Status | Comments |
|--|---|---|
| Core Objective WS 1: Increase available water supplies and maximize overall water use efficiency to meet identified existing and future needs | | |
| Planning | | |
| Lower East Coast (LEC) Water Supply Plan Development and Coordination District Contact: Jim Jackson | Complete (Plan was completed in FY 2000) | The <i>Lower East Coast Regional Water Supply Plan</i> (SFWMD, 2000b) is a long-range strategy for dealing with the future water supply needs of a growing population, as well as the local environment in the LEC Planning Area. The planning area consists of Palm Beach, Broward and Miami-Dade Counties, as well as portions of Hendry, Collier and Monroe Counties. The plan projects future water demands for urban areas and agriculture for 2020 and develops strategies to meet those demands while also meeting the needs of the environment. The plan's strategies and recommendations incorporate regional responsibilities (water resource development) and local responsibilities (water supply development), and identify potential funding sources. |
| Lower West Coast (LWC) Water Supply Plan Development and Coordination District Contact: Bonnie Kranzer | Complete (Plan was completed in FY 2000) | The <i>Lower West Coast Water Supply Plan</i> (SFWMD, 2000c) is a long-range strategy for dealing with the future water supply needs of a growing population, as well as the local environment in the LWC Planning Area. The planning area consists of Lee County, most of Collier and Hendry Counties, and portions of Charlotte, Glades and Monroe Counties. The plan projects future water demands for urban areas and agriculture for 2020 and develops strategies to meet those demands while also meeting the needs of the environment. The plan's strategies and recommendations incorporate regional responsibilities (water resource development) and local responsibilities (water supply development), and identify potential funding sources. |
| Caloosahatchee Water Management Plan (CWMP) District Contact: Akintunde Owosina | Ongoing | This activity coordinates implementation projects from the <i>Caloosahatchee Water Management Plan</i> (SFWMD, 2000d) approved by the Governing Board in April 2000. The projects are related to the Caloosahatchee River and Estuary, and the river's tributary basins. Per plan recommendations, the issues identified by the CWMP, as well as the models and analyses tools used, are being incorporated into the Southwest Florida Feasibility Study, which is ongoing. The Caloosahatchee River ASR Pilot Project and the C-43 Regional Storage Projects, recommendations 1.1.1 and 1.1.2 of the CWMP are ongoing. Minimum Flows and Levels have been established for the Caloosahatchee Estuary per CWMP recommendation 3.1 and will be incorporated into subsequent water supply plan updates. |
| Kissimmee Basin Water Supply Plan Development and Coordination District Contact: Chris Sweazy | Complete (Plan was completed in FY 2000) | The <i>Kissimmee Basin Water Supply Plan</i> (SFWMD, 2000e) is a long-range strategy for dealing with the future water supply needs of a growing population, as well as the local environment in the Kissimmee Basin Planning Area. The planning area consists of portions of Orange, Osceola, Polk, Highlands, Glades and Okeechobee Counties. The plan projects future water demands for urban areas and agriculture for 2020 and develops strategies to meet these demands while also meeting the needs of the environment. The plan's strategies and recommendations incorporate regional responsibilities (water resource development) and local responsibilities (water supply development), and identify potential funding sources. |

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| Activity | Status | Comments |
|---|--|---|
| Northern Palm Beach County Comprehensive Water Resources Management Plan District Contact: Patricia Walker | Complete (Plan was completed in May 2002) | The <i>Northern Palm Beach County Comprehensive Water Resources Management Plan</i> (SFWMD 2002a) is a sub-regional plan, which focuses on the Southern L-8 Basin, the City of West Palm Beach Water Catchment Area/water supply lake system and the C-18 Basin, which includes the Loxahatchee Slough and the Loxahatchee River, especially the Northwest Fork of the Loxahatchee River. The plan projects future water demands for environmental, agricultural and urban for 2020, and identifies projects that, if built, will bring supplemental water into the area. The plan's strategies and recommendations incorporate regional responsibilities (water resource development) and local responsibilities (water supply development), and identify potential funding sources. The Plan was accepted by the Governing Board in May 2002. |
| Upper East Coast (UEC) Water Supply Plan Development and Coordination District Contact: Sharon Fowler | Complete (Plan was completed in FY 1998) | The <i>Upper East Coast Water Supply Plan</i> (SFWMD 1998a) is a long-range strategy for dealing with the future water supply needs of a growing population, as well as the local environment in the Upper East Coast Planning Area. The planning area consists of Martin and St. Lucie Counties and eastern Okeechobee County. The plan projects future water demands for urban areas and agriculture for 2020 and develops strategies to meet these demands while also meeting the needs of the environment. The plan's strategies and recommendations incorporate regional responsibilities (water resource development) and local responsibilities (water supply development), and identify potential funding sources. This plan was the first water supply plan completed by the District. It is scheduled to be updated in 2004. |
| Public Works Construction | | |
| Ten Mile Creek Critical Project District Contact: Denise Arrieta | Behind schedule | Land acquisition for the Ten Mile Creek Critical Project has been completed. Plans and specifications were completed in May 2002. This project is behind schedule due to archaeological issues. Construction is now scheduled to begin in June 2003 (FY 2003) and be complete in November 2005 (FY 2006). |
| Hillsboro ASR Pilot Project (formerly, Western Hillsboro [Site 1] Aquifer Storage and Recovery [ASR] Pilot Project) District Contact: Rick Nevulis | Behind schedule | Since completion of the Project Management Plan (PMP) in March 2001, source water characterization was out-sourced, initiated and experienced schedule delays. Initial data gathering tasks should be concluded at the end of the second quarter of FY 2003. The Pilot Project Design Report (PPDR) and ASR system design, both on the critical path, will be initiated during FY2003. |
| L-31N Seepage Management Pilot Project District Contact: Dewey Worth | Behind schedule | The District's Governing Board approved early work on a data collection contract during FY 2001. The PMP received final approval in April 2002. The PPDR was initiated in April 2002 (FY 2002) and is scheduled to be complete in December 2005 (FY 2006). |
| Caloosahatchee River (C-43) Basin ASR Pilot Project (formerly, Caloosahatchee ASR Pilot Project) District Contact: Robert Verrastro | Behind schedule | The PMP was completed in February 2002. The PPDR was initiated in February 2002 and is scheduled for completion in January 2005. |
| Water Conservation Area (WCA)-3A and WCA-3B Seepage Management District Contact: Max Day | On schedule | PMP development is underway with a revised strategy and schedule. The draft feasibility report was completed in October 2001. In June 2002 a revised strategy was formulated to close out the feasibility study and move forward with nine individual Project Implementation Reports (PIRs) for the 14 WPA components. The WCA 3A/3B Seepage Management component is now part of the Broward County Water Preserve Areas project and the PMP has been initiated on an expedited basis. Completion is expected in April 2003. The PIR will be initiated immediately upon completion of the PMP in accordance with the PMP schedule. The project schedule must be revised accordingly to adhere to the revised strategy. |
| Broward County Secondary Canal System District Contact: Jose Lopez | Behind schedule | The project schedule will require revision, as the scope of work will change to accommodate Broward County modeling and requested changes. The project has not yet started; however, PMP development will be now be initiated in 2003. |
| C-23, C-24 RASTAs (formerly, C-23 and C-24 Basins Water Preserve Area) District Contact: Beth Kacvinsky | On schedule – not yet started | These Regional Attenuation Stormwater Treatment Areas (RASTAs) are part of the Indian River Lagoon Project. Work is scheduled to begin in FY 2003. |

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| Activity | Status | Comments |
|--|-------------------------------|---|
| <p>Lake Belt In-Ground Reservoir Technology Pilot Project</p> <p>(formerly, Lake Belt Technology Pilot Project)</p> <p>District Contact: Paul Linton</p> | Behind schedule | A contract for early data collection was solicited during FY 2001. The PMP was completed in March 2002. The PPDR was initiated in April 2002 and is expected to be complete in January 2006. This project is behind schedule due to data collection, the geo-technical contract, federal funding and finalization of the siting memorandum due to lack of candidate sites. |
| <p>Southern L-8 In-Ground Reservoir</p> <p>District Contact: Michael Voich</p> | On schedule | This is part of the North Palm Beach County - Part 1 Project. Work is in progress to complete the PMP in January 2003. Approval was granted to move forward with work on the L-8 test reservoir prior to approval of the PMP in order to capture and store water for the 2002 dry season and to gather data necessary for the PIR. The project schedule is under revision. |
| <p>WCA 3A & 3B Flows to CLBSA</p> <p>(formerly, Flows From WCA-3 to the Central Lake Belt Area)</p> <p>District Contact: Max Day</p> | On schedule | The PMP is under development and is scheduled for completion by March 2003. This project is ahead of the schedule described in the Master Implementation Schedule (Version1) for the Comprehensive Everglades Restoration Plan (CERP – SFWMD and USACE, 1999). |
| <p>Flows From Central Lake Belt Storage Area to WCA-3B</p> <p>District Contact: Dewey Worth</p> | On schedule – not yet started | This is part of the Diverting WCAs Flows to Central Lake Belt Storage to Downstream Natural Areas Project. It is scheduled to begin in Fiscal Year 2009. |
| <p>Eastern Hillsboro ASR Project</p> <p>District Contact: Pete Kwiatkowski</p> | On a revised schedule | This project, cooperatively funded with the Palm Beach County Water Utilities Department, includes the installation of one 5.0-million gallon per day (mgd) ASR well, one upper Floridan aquifer monitoring well, five surficial aquifer supply wells and raw water piping to convey water from the surficial wells to the ASR well. |
| <p>LEC Water Supply Development Implementation</p> <p>District Contact: Jim Jackson</p> | Ongoing | The <i>Lower East Coast Regional Water Supply Plan</i> (SFWMD, 2000b) will be implemented by using regional and local water supply planning efforts to predict when alternative sources will be needed and to provide guidance as to which source may be most appropriate for meeting the particular needs of each user. |
| <p>Miami-Dade County ASR</p> <p>District Contact: Jim Jackson</p> | On a revised schedule | The Miami-Dade County ASR Project will use excess wellfield capacity available from existing wellfields in the surficial aquifer during the wet season to provide water for storage in the Upper Floridan Aquifer System. This water will later be recovered during the dry season to reduce the demands of the utility wellfields on the surficial aquifer. This project is under a revised schedule, to be carried out in FY 2003 – FY 2005 |
| <p>Capital Program</p> <p>District Contact: Vince Loehrlein and Zan Kuglar</p> | Ongoing | The Capital Program includes capital improvements, modifications, or repairs to District water control and conveyance facilities. The S-7 and S-8 Projects were carried over from FY 2001 to FY 2002 due to the size of the projects. |
| <p>Kissimmee Basin Water Resource Development Implementation</p> <p>District Contact: Chris Sweazy</p> | Ongoing | This activity is for the implementation of the regional water resource development projects recommended in the Kissimmee Basin Water Supply Plan (SFWMD, 2000e). Among the projects being completed under this activity are: reclaimed injection pilot project, aquifer recharge enhancement project, development of a management plan for the Lake Istokpoga/Indian Prairie Basin, and numerous hydrologic, geologic, and ground water modeling studies |
| <p>LWC Water Resource Development Implementation</p> <p>District Contact: Bonnie Kranzer</p> | Ongoing | This activity is for the implementation of regional water resource development projects recommended in the <i>Lower West Coast Water Supply Plan</i> (SFWMD, 2000c). Significant milestones to date include: adoption of MFLs for the Caloosahatchee River and Estuary and LWC aquifers (except for the water table and Floridan); addition of one mobile irrigation lab in Collier County; near completion of the initial study of the Regional Irrigation Distribution Study; addition of 19 monitoring wells in the surficial and intermediate aquifer system; nearing completion on the project for potentiometric mapping of the aquifer; completion of the Reverse Osmosis feasibility study, which resulted in Florida Power and Light (FP&L) Company and Lee County pursuing a joint agreement for a facility on the Caloosahatchee River; and completion of initial studies and drafts affecting numerous CERP projects. |
| <p>UEC Water Resource Development Implementation</p> <p>District Contact: Sharon Fowler</p> | Ongoing | This activity is for the implementation of regional water resource development projects recommended in the <i>Upper East Coast Water Supply Plan</i> (SFWMD, 1998). |

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|---|-------------|---|
| Comprehensive Everglades Restoration Plan (CERP) Reserves District Contact: Steve Reel | Ongoing | This activity is for the management of the cash reserves for the implementation of the CERP. |
| Operations and Maintenance | | |
| Lake Istokpoga Regulation Schedule District Contact: Lewis Hornung | On schedule | The PMP is being developed and is scheduled for completion in December 2002. |
| Structure Operations District Contact: Tommy Strowd | Ongoing | Structure operations include the movement of water, pumping operations activities, and automation for the Central and Southern Florida (C&SF) Project canal system. |
| Water Control Structure Maintenance District Contact: Lindel Williams | Ongoing | This activity is for water control structure maintenance, including District pump stations, structures, project culverts and special construction projects as determined. |
| Canal/Levee Maintenance District Contact: Lindel Williams | Ongoing | This activity is for the maintenance of canals and levees, including replacement of project culverts, bank stabilization, revegetation, mowing, tree removal and shoal removal. |
| Equipment Maintenance District Contact: John Adams | Ongoing | Equipment maintenance consists of preventive and cyclic maintenance and restoration of a variety of equipment. |
| Electronics, Communications, and Control Device District Contact: Nancy Little | Ongoing | District communication, electronics, monitoring and control devices must be developed, installed, supported, and maintained. These are categorized as supervisory control and data acquisition (SCADA) system devices, and include data loggers / remote terminal units, sensors, radio frequency (rf) devices which utilize the microwave network backbone for transfer of data or control functions. This provides the required functional control of water resources and historical data for water supply planning and implementation. |
| Exotic Plant Control District Contact: Dan Thayer | Ongoing | Invasive exotic aquatic and terrestrial vegetation within District canals, canal banks, lakes, rights-of-way and preserve lands must be controlled. This control is accomplished through in-house and contracted herbicidal, mechanical and biological control methods. This program works primarily to ensure conveyance capacity within canals and water bodies. |
| General Maintenance District Contact: Frank Ferrano | Ongoing | This activity provides preventative maintenance and repairs to District fixed and mobile equipment to ensure operation of the District water control system and provides maintenance and repairs to District field facilities. |
| Central and Southern Florida (C&SF) Project Operational Planning District Contact: Luis Cadavid | Ongoing | This activity includes, but is not limited to: regional modeling support for the District and the United States Army Corp of Engineers (USACE) to develop and implement short-term and/or routine operational procedures (e.g., implementation of the Water Supply and Environment [WSE] schedule for Lake Okeechobee); development of rain-driven operating rules recommended for the Everglades by the <i>Lower East Coast Regional Water Supply Plan</i> and the CERP; development of operational modifications recommended in the <i>Lower East Coast Regional Water Supply Plan</i> (SFWMD, 2000b) (e.g., supply-side management modifications, rain-driven operations); and development of operational plans for components of the <i>Lower East Coast Regional Water Supply Plan</i> and the CERP. |
| Regulation | | |
| Water Use Permitting District Contact: Scott Burns | Ongoing | This program involves the review of water use permit applications. The objective is to ensure safe, efficient, equitable, and reliable development of the state's water resources. The major components are to: review and prepare recommendations for permit applications for all consumptive uses of water within the District boundaries; provide post-permit compliance checks on priority projects based on staffing resources; and review and issue well construction permits for specific water wells within the District boundaries. Water use permitting also includes permit planning, permit issuance, dispute resolution, mitigation support, technical support for enforcement, communication with the water supply planning activities of this agency, and criteria and rule development. |

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| Activity | Status | Comments |
|--|---|--|
| Revise Consumptive Use Permitting (CUP) Rules District Contact: Scott Burns | Ongoing | The last time District water use rules were substantially modified was in 1993, when the water conservation rules were updated. Since that time, numerous changes in legislation, District policy, and the development of the regional water supply planning process have caused District staff to reexamine the agency's water use rules. Some of the proposed changes will consist of administrative updates, while others involve technical criteria changes that relate to the implementation objectives of the District's regional water supply plans. |
| Outreach | | |
| Hillsboro ASR Pilot Project (formerly, Hillsboro [East] ASR Pilot) District Contact: Pete Kwiatkowski | Behind Schedule | Since completion of the PMP in March 2001, the water quality characterization of the source water characterization was out-sourced, initiated and experienced schedule delays. Initial data gathering tasks should be concluded at the end of the second quarter of FY 2003. The PPDR and ASR system design, both on the critical path, will be initiated during FY 2003. |
| LEC Water Supply Development Implementation District Contact: Jim Jackson | Ongoing | The <i>Lower East Coast Regional Water Supply Plan</i> (SFWMD, 2000b) will be implemented by using regional and local water supply planning efforts to predict when alternative sources will be needed, and to provide guidance as to which source may be most appropriate for meeting the particular needs of each user. |
| Miami-Dade County ASR District Contact: Jim Jackson | On a revised schedule | The Miami-Dade County ASR Project will use excess wellfield capacity available from existing wellfields in the surficial aquifer during the wet season to provide water for storage in the Upper Floridan Aquifer System. This water will later be recovered during the dry season to reduce the demands of the utility wellfields on the surficial aquifer. This project is under a revised schedule, to be carried out in FY 2003 – FY 2005 |
| LWC Water Supply Development Implementation District Contact: Bonnie Kranzer | Ongoing | This activity will evaluate Lower West Coast alternative water supply sources, or a combination of alternatives, with local water users to find the combination that best suits local requirements and conditions. Rule development public workshops completed for mandatory year-round water conservation measures and technical assistance workshop for the Evaluation and Appraisal Report (including water supply facilities workshop session) were held for the Lower West Coast. |
| Alternative Water Supply (AWS) Cooperative Projects District Contact: Jane Bucca | Ongoing | AWS Cooperative Projects annually provide for the following: the receipt of AWS project applications; the review, ranking and Governing Board approval of proposed contract awards; execution of the contractual agreements; and the development of annual reports to the Florida Legislature. The SFWMD provided funding totaling \$3.9 million for 14 projects in FY 2002. |
| Water Conservation District Contact: Bruce Adams | On a revised schedule | The District's water conservation efforts, or demand management, refer to water use practices and technologies that provide the services desired by the users while using less water. The District's Demand Management Program incorporates water supply planning, regulation and supplemental measures in order to cultivate a conservation ethic in cooperation with water users. The District initiated a water demand conservation cooperative funding program that provided \$250,000 for five projects, and increased funding for outreach and public education. |
| Monitoring and Evaluation | | |
| Hydrologic Modeling and Analysis – Water Resource Development District Contact: Scott Burns | Ongoing | This activity provides for regional and sub-regional modeling to support the implementation of recommendations from the <i>Lower East Coast Regional Water Supply Plan</i> (SFWMD, 2000b) and associated regulatory/rulemaking activities. These regulatory/rulemaking activities include reservations of water for natural systems and minimum flows and levels (MFLs). Efforts will also include pre-regulatory modeling for water users. |
| Hydrologic Management – Hydrologic Studies District Contact: John Lukasiewicz | Ongoing | The fundamental hydrogeologic support projects are all on schedule and ongoing. The well inventory application (WILMA) has been integrated with the District's corporate database (DBHydro) and is now available through the Web Browser. Twelve USGS projects continue to come in on schedule, but are now reduced to seven projects due to budget cuts. |
| Water Supply Program Controls District Contact: David Gilpin-Hudson and Linda Hoppes | Ongoing (Previously discontinued, but now reactivated) | The activity provides for the status of each water supply plan recommendation (119 total) to be reported on quarterly. Additionally, project controls for the development and implementation of regional water supply plans will be implemented in FY 2003. |

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| Core Objective WS 2: Prevent contamination of water supplies | | |
|---|-----------|--|
| Regulation | | |
| Water Use, Application, Compliance, and Criteria Development District Contact: Scott Burns | Ongoing | Water use permitting (consumptive use permitting) is a state-mandated program assigned exclusively to the water management districts. The objective is to ensure safe, efficient, equitable and reliable development of the state's water resources. The major components are to: review and prepare recommendations for permit applications for all consumptive uses of water within the District boundaries; provide post-permit compliance checks on priority projects based on staffing resources (approximately 300 projects per year); review and issue well construction permits for specific water wells within District boundaries; and perform water conservation rulemaking analysis and make recommendations. This activity also includes pre-permit planning, permit issuance, dispute resolution, litigation support, technical support, enforcement, communication with water supply planning activities of this agency, and criteria and rule development. |
| Outreach | | |
| Local Plan Review District Contact: P.K. Sharma | Ongoing | Pursuant to the requirements of Chapters 373 and 163, F.S., the District reviews local government comprehensive plans and amendments, and provides water resources-related technical assistance to local governments on efforts to prepare Evaluation and Appraisal reports (EARs). Efforts to support this activity were significantly upgraded during FY 2002 in support of linking land and water planning. |
| Local Liaison District Contact: John Higgins | Ongoing | This activity provides for a liaison with county and Chapter 298 Districts, and enables the coordination of agency review of Water Control District plans. |
| Water Shortage Management District Contact: Bruce Adams | Ongoing | Because of favorable water resource conditions, water shortage orders were rescinded on October 11, 2001, for all areas of the District, except for certain portions of Orange County. The District is currently under rule development for Chapter 40-E21, the Water Shortage rule. Staff has conducted two rounds of public workshops throughout the District on proposed revisions to the rule. |
| Wellhead Protection Programs District Contact: <i>Assigned as needed by the Water Supply Department</i> | As needed | The FDEP is the agency responsible for this activity. The District will provide assistance to the FDEP and local governments as needed. The FDEP has a number of regulations under the Florida Administrative Code that function to regulate hazardous and solid waste, stormwater discharges, storage tank systems, etc. The primary goal of these legislative policies is to prevent problems before they occur, as contrasted to correcting or providing remedial action for preexisting problems. The intent of these ordinances is to protect and safeguard the health, safety, and welfare of the public by providing criteria for regulating and prohibiting the use, handling, production, and storage of certain deleterious substances that may impair present and future public water supply wells and wellfields. The District has and will continue to provide assistance to local governments in the preparation of their wellfield protection ordinances. No wellhead protection activity has occurred since the last update of the DWMP. |
| Recharge Mapping District Contact: <i>Assigned as needed by the Water Supply Department</i> | As needed | As directed by Chapter 373, F.S., the District provides ground water recharge information to local governments to assist them with the development and implementation of appropriate water resource policies. In order to accomplish this, the District undertook a project to map recharge areas within its four planning regions. This effort was completed in 1995. The maps delineate precipitation recharge and leakage rates for all the primary public water supply aquifers utilized throughout South Florida. The District has and will provide assistance to local governments in the delineation of prime recharge areas in order to implement voluntary tax assessment programs (under the Bluebelt Act) that protect the state's prime recharge areas. No recharge mapping was performed since the last update of the DWMP. |
| Monitoring and Evaluation | | |
| Wetland Criteria Development and Support District Contact: Deborah Goss | Ongoing | This activity supports the Regulation Program in developing a scientific basis for wetland protection criteria used in water use permitting. The activity was originated at the direction of the Governing Board and Executive Office to develop a research and monitoring program to investigate impacts to wetlands caused by water table drawdown and to develop specific recommendations for drawdown criteria that prevent adverse impacts. This information is needed to support rulemaking for District and is a critical element in the implementation of the water supply plans. |

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Part B. Flood Protection and Floodplain Management

Historically, flood protection has been at the core of the District's activities. The District was originally established in 1949 as the Central and Southern Florida Flood Control District. The Flood Protection and Floodplain Management portion of the DWMP is divided into two core objectives:

Core Objective FP 1: Minimize damage from flooding

Core Objective FP 2: Promote nonstructural approaches to achieve flood protection, and to protect and restore the natural features and functions of the 100-year floodplain

Table 2. The FY 2002 Status of the DWMP Flood Protection and Floodplain Management Activities

| Activity | Status | Comments |
|---|-------------|--|
| Core Objective FP 1: Minimize damage from flooding | | |
| Planning | | |
| Big Cypress Basin Watershed Project (Big Cypress Watershed Management Plan) District Contact: Ananta Nath | Ongoing | The Big Cypress Basin Watershed Management Plan includes development of a set of calibrated hydrologic-hydraulic models and ecologic assessment of an approximately 1,200-square mile area of western Collier watershed and incorporation of engineering, economic, and environmental analyses of alternative water management strategies to formulate continuing plans and road maps for capital projects in the Big Cypress Basin. During 2001, a comprehensive evaluation of surface and groundwater elements of the Basin was incorporated by an integrated SW/GW model. |
| South Lee County Watershed Plan District Contact: Akintunde Owosina | Ongoing | Severe flooding in 1995 raised the issue of water flows in southern Lee County. The South Lee County Watershed Plan addressed this issue. The work in this project involved three phases. Phase I focused on collection and analyses of background data and hydrologic and hydraulic model development for the study area. During Phase II, the ecological value of the study area was assessed and the target hydrologic parameters for restored conditions were identified. During Phase III, models were applied to evaluate the performance of existing water management facilities in the study area, existing problems were identified and alternative facilities and systems recommended. The plan was completed in July 1999 and several of the recommendations have been implemented. River and creek systems restoration involving removal of exotic vegetation and debris has been completed on major creeks in the study area. A maintenance schedule that keeps these systems clean is ongoing. Acquisition of flood plain in the east Bonita Springs area as recommended in the plan is ongoing. Finally, a Regional Flow way concept recommended by the plan is being implemented through the Regulatory process. |
| Public Works Construction | | |
| Capital Program District Contact: Vince Loehrlein and Zan Kugler | Ongoing | The Capital Program includes capital improvements, modifications, or repairs to District water control and conveyance facilities. The S-7 and S-8 Projects were carried over to FY 2002 due to the size of the projects. |
| Modified Water Delivery Project District Contact: Paul Linton | On schedule | The Modified Water Deliveries Project is designed to restore the hydrologic balance between western Shark River Slough and northeastern Shark River Slough, to benefit Everglades National Park flora and fauna. The detail design of the recommended plan has been initiated. |
| C-111 Project Implementation District Contact: Paul Linton | On schedule | The C-111 Project consists of both structural and nonstructural modifications to the existing works within the C-111 Basin to promote more natural hydroperiods in Taylor Slough and the eastern panhandle ecosystems of Everglades National Park. Flood protection within the C-111 Basin east of the L-31N and C-111 canals will be maintained. In FY 2001, 90% of the land acquisition was completed. The general reevaluation report supplement is under development. |
| Kissimmee River Restoration Engineering Design and Implementation District Contact: Sally Kennedy | Ongoing | The Kissimmee River Restoration Project is a partnership with the USACE. Included are analyses, design and implementation of construction features that will continue to provide existing level of flood protection when ecosystem restoration features are fully constructed as part of this project. The project should be completed in 2012. |

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| Activity | Status | Comments |
|---|-----------|---|
| Operations and Maintenance | | |
| Structure Operations District Contact: Tommy Strowd | Ongoing | Structure operations include the movement of water, pumping operations activities and automation for the C&SF Project canal system. |
| Water Control Structure Maintenance District Contact: Lindel Williams | Ongoing | Water control structure maintenance includes District pump stations, structures, project culverts and special construction projects. |
| Canal/Levee Maintenance District Contact: Lindel Williams | Ongoing | Canals and levees must be maintained. Maintenance includes replacement of project culverts, bank stabilization, revegetation, mowing, tree removal and shoal removal. |
| Equipment Maintenance District Contact: John Adams | Ongoing | Equipment maintenance consists of preventive and cyclic maintenance and restoration of a variety of equipment for the regional flood control systems. |
| Electronics, Communications, and Control Devices District Contact: Nancy Little | Ongoing | District communication, electronics, monitoring and control devices must be developed, installed, supported and maintained. These are categorized as supervisory control and data acquisition (SCADA) system devices, and include dataloggers / remote terminal units, sensors, radio frequency (rf) devices which utilize the microwave network backbone for transfer of data or control functions. This provides the required functional real-time control and monitoring of the District's C&SF system canals and water control structures for operational decisions, data archive and hydrologic-hydraulic modeling. |
| Exotic Plant Control District Contact: Dan Thayer | Ongoing | Invasive exotic aquatic and terrestrial vegetation within District canals, canal banks, lakes, rights-of-way and preserve lands must be controlled. This control is accomplished through in-house and contracted herbicidal, mechanical and biological control methods. This program works primarily to ensure conveyance capacity within canals and water bodies. |
| Right-of-Way Management District Contact: Tom Fratz | Ongoing | Right-of-Way Management involves the management of uses of District rights-of-way by means of permitting and enforcement initiatives designed to minimize outside impacts on the District's ability to operate and maintain the canal and levee system. |
| Emergency Management District Contact: Olivia McLean | As needed | The mission of the District's Emergency Management Program is to prevent or minimize, prepare for, respond to and recover from emergencies or disasters that threaten life or property within the boundaries of the District. These activities ensure that the District can accomplish its mission during adverse conditions. The District works closely with, and offers support to, local and state emergency managers to prepare for and assist with man-made hazards, dam failures, nuclear power plant failures, fires, storms and a number of other types of emergencies within Florida. |
| Regulation | | |
| Environmental Resource Permitting (ERP) District Contact: Terrie Bates | Ongoing | This ongoing activity involves the review of environmental resource permit applications. It includes the following: <ul style="list-style-type: none"> • Technical engineering and environmental review and evaluation of construction and conceptual plans for proposed development activities • Recommendations for project design changes to ensure proposed activities meet District criteria for flood, water quality, and environmental protection • Negotiations with permit applicants • Field inspections of project sites requesting permits or wetland determinations • Review of wetland mitigation plans • Preparation of requests for additional information • Preparation of technical staff reports • Compliance review of permitted sites • Compliance review of submitted documents required by permit special conditions • Administrative and automation support critical to the ERP Program |

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| Outreach | | |
|--|--------------|--|
| Local Plan Review District Contact: P.K. Sharma | Ongoing | Pursuant to the requirements of Chapters 373 and 163, F.S., the District reviews local government comprehensive plans and amendments, and provides water resources related technical assistance to local governments on their efforts to prepare Evaluation and Appraisal reports (EARs). Efforts to support this activity were significantly upgraded during FY 2002 in support of linking land and water planning. |
| Monitoring and Evaluation | | |
| Flood Control Level of Service | Discontinued | Funding was not available for this activity. |
| Basin Flood Studies District Contact: Ken Konyha | Ongoing | This activity consists of basin flood studies in the C-17 and C-51 Basins. The C-17 Basin Study will investigate increasing flood mitigation and conveyance capacity of the C-17 Canal and the S-44 Structure without adversely affecting the receiving water body (Lake Worth Lagoon). The C-51 Basin Study will reevaluate the C-51 Basin Rule (surface water management permitting criteria). The C-11 and C-4 Basins are also being studied. The C-4 forward pumping station has been constructed and was operational for the 2002 wet season. |
| Core Objective FP 2: Promote nonstructural approaches to achieve flood protection, and to protect and restore the natural features and functions of the 100-year floodplain | | |
| Land Acquisition | | |
| Stewardship Save Our River (SOR) Lands District Contact: Fred Davis | Ongoing | SOR stewardship activities include planning and implementing a stewardship work plan, administering a land acquisition plan, administering a public use rule and administering mitigation banks/projects. |
| General Land Acquisition District Contact: Fred Davis | Ongoing | This activity involves the acquisition of lands in support of District programs for water management, water supply, and the conservation and protection of water resources. |
| Regulation | | |
| Environmental Resource Permitting (ERP) District Contact: Terrie Bates | Ongoing | <p>This ongoing activity involves the review of environmental resource permit applications. It includes the following:</p> <ul style="list-style-type: none"> • Technical engineering and environmental review and evaluation of construction and conceptual plans for proposed development activities • Recommendations for project design changes to ensure proposed activities meet District criteria for flood, water quality, and environmental protection • Negotiations with permit applicants • Field inspections of project sites requesting permits or wetland determinations • Review of wetland mitigation plans • Preparation of requests for additional information • Preparation of technical staff reports • Compliance review of permitted sites • Compliance review of submitted documents required by permit special conditions • Administrative and automation support critical to the ERP Program |

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Part C. Water Quality

The water quality section of the DWMP addresses efforts to ensure that water quality standards are met throughout the District. The DWMP utilizes two core water quality objectives:

Core Objective WQ 1: Protect and improve surface water quality

Core Objective WQ 2: Protect and improve ground water quality

Table 3. The FY 2002 Status of the DWMP Water Quality Activities

| Activity | Status | Comments |
|---|------------------------|--|
| Core Objective WQ 1: Protect and improve surface water quality | | |
| Planning | | |
| Kissimmee Basin Plan Development | Discontinued | This activity was eliminated due to budget constraints. |
| Florida Bay and Florida Keys Feasibility Study (formerly, Florida Bay Feasibility Study) District Contact: Dewey Worth | Behind schedule | The Florida Bay and Florida Keys Feasibility Study will determine the types of modifications that are needed to successfully restore and protect the water quality and ecological conditions of the Florida Bay and the Florida Keys' reef tract. The study will evaluate the quantity, timing, distribution and quality of fresh water that should flow to Florida Bay and provide recommendations for any modification of water deliveries that are expected as a result of the implementation of Everglades restoration programs. The PMP was finalized in February 2002. The feasibility study was initiated in March 2002. Performance measures and evaluation models are being developed. The final feasibility report is scheduled for completion in December 2006. |
| Comprehensive Integrated Water Quality Plan | Not a District project | The Comprehensive Integrated Water Quality Plan is being developed and implemented by the FDEP. |
| Florida Keys Water Quality Plan District Contact: Cecelia Weaver | Ongoing | The strategies identified in the Florida Keys Water Quality Plan focus on eliminating water quality problems that are related to land-based activities in the Florida Keys. These problems may be caused by inadequate or nonexistent treatment of storm water runoff and wastewater. The plan builds upon several other plans, notably the Water Quality Protection Program and the Management Plan for the Florida Keys National Marine Sanctuary, and focuses on restoration strategies and projects that could be initiated or assisted by the District. |
| Indian River Lagoon Surface Water Improvement and Management (SWIM) Plan Documentation District Contact: Pat Gostel | Ongoing | This activity involves an update of the <i>Indian River Lagoon Surface Water Improvement and Management Plan</i> (SFWMD and SJRWMD, 1994). The Indian River Lagoon SWIM Project, a joint program administered with the St. Johns River Water Management District (SJRWMD), is designed to develop and execute a combination of research and practical implementation projects to protect or restore the environmental resources of the St. Lucie Estuary and the Indian River Lagoon. This update is currently under development with the SJRWMD. The update is scheduled to be submitted for approval of the SFWMD Governing Board in December 2002. |
| Lake Okeechobee SWIM Plan Implementation District Contact: Kim O'Dell | Ongoing | This activity includes work required to ensure that the <i>Surface Water Improvement and Management (SWIM) Plan – Update for Lake Okeechobee</i> (SFWMD, 1997) is being implemented as intended. A plan update was completed in 2002. |
| Public Works Construction | | |
| Lake Okeechobee Water Retention/ Phosphorus Removal District Contact: Jose Otero | Revised schedule | Plans and specifications for the Taylor Creek and Nubbin Slough stormwater treatment areas were finalized. Value engineering options will be incorporated into the plans and specifications in FY 2003. Construction is scheduled to begin in FY 2003 and will be completed in FY 2005. One isolated wetland site, the Byrd site, was completed. The remaining isolated wetlands are under design and are scheduled for completion in FY 2005. |

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| Activity | Status | Comments |
|---|-----------------|---|
| Western C-11 Water Quality Improvement Critical Project (formerly, Western C-11 [S-9] Water Quality Treatment Project) District Contact: Susan Ray | Behind schedule | Phase 1 was the construction of pump station S-9A, which includes four new seepage return pumps, located adjacent to pump station S-9. The station was handed over to SFWMD in September 2002. The water control plan for the project was completed June 2002. Construction was initiated November 2001 on the new divide structure, Phase 2, but was halted in April 2002 in order to change the divide structure design in response to concerns about potential flooding impacts. The new design incorporates an Obermeyer inflatable air bladder gate system and is planned to be complete by January 2003. Construction is anticipated to be complete by April 2004. |
| Lake Okeechobee Tributary Sediment Dredging District Contact: Lewis Hornung | On schedule | This is part of the Lake Okeechobee Watershed Project. The PMP was completed in July 2001. A watershed assessment will be a first step in the PIR. A contract was awarded in January 2002 for technical support for the planning process, and work is underway. |
| Everglades Construction Project (ECP) District Contact: Gary Goforth | On schedule | The District and the FDEP have set in motion a program that forms a comprehensive and consistent set of strategies to carry out the requirements of the Everglades Forever Act. Note that STA-1E, which is being constructed by the USACE, is approximately two years behind schedule. |
| Pineland and Hardwood Hammock Restoration (C-111 Basin) | Discontinued | This is not a District project. Miami-Dade County is the local sponsor of this CERP project. |
| Taylor Creek/Nubbin Slough Reservoir and STA District Contact: Lewis Hornung | On schedule | This is part of the Lake Okeechobee Watershed Project. The PMP was completed in July 2001. A watershed assessment will be a first step in the PIR. A contract was awarded in January 2002 for technical support for the planning process and work is underway. |
| Operations and Maintenance | | |
| Operations and Maintenance of ECP District Contact: Gary Goforth | Ongoing | The operations and maintenance of the ECP is mandated by the Everglades Forever Act. This includes costs associated with the operations and maintenance of canals, levees, pipes, culverts, pump stations and monitoring test cells within the ECP. |
| Regulation | | |
| Everglades Works of the District Permitting District Contact: Bob Howard | Ongoing | The Federal Settlement Agreement and the Everglades Forever Act mandate the implementation of the Everglades Best Management Practice (BMP) Program for the Everglades Agricultural Area (EAA) to control phosphorus. In addition, the Everglades Forever Act mandates additional regulatory programs to include other water quality parameters and to include additional basins. The implementation of BMPs through this program has resulted in a 55 percent reduction in phosphorus loads in 2002. The three-year rolling average indicates a 59 percent reduction in phosphorus loads. Additionally, the BMP Program Rule was amended to include the C-139 Basin. The first year of compliance determination for the C-139 Basin will be Water Year 2003. |
| Everglades Storm Water Program District Contact: Damon Meiers | Ongoing | The Everglades Storm Water Program (formerly known as the Non-ECP Initiative) was mandated by the Everglades Forever Act. The purpose of this program is to ensure that water quality standards are met at all structures that the District controls that pump water into, through, or from the Everglades Protection Area. This will be achieved through implementing the Non-ECP Permit, a combination of regulatory analysis, water quality monitoring, water quality improvement strategies, and solutions such as BMPs, or construction projects. Other components of the program include an education campaign, and developing a method for reimbursement of expenditures through a special assessment. |
| Monitoring and Evaluation | | |
| Lake Okeechobee Works of the District Permitting District Contact: Gary Ritter | Ongoing | The purpose of this activity is to inventory and permit all nondairy land uses in the priority basins of the northern Lake Okeechobee watershed. High phosphorus areas will be identified through water quality surveys, monitoring will be performed to ensure compliance with SWIM phosphorus discharge concentration limits, and corrective actions will be required on parcels that are out of compliance. The Lake Okeechobee Works of the District regulatory program is an integral component of the Lake Okeechobee Protection Plan. Efforts are underway to amend portions of the Works of the District Program to better support the intent of the Lake Okeechobee Protection Plan. |
| Kissimmee Basin Data Collection and Evaluation District Contact: Joe Koebel | On schedule | The 2000 Lake Okeechobee Bill requires an assessment of the sources of phosphorus from the Upper Kissimmee Chain of Lakes and their relative contribution to the water quality of Lake Okeechobee. In addition, data evaluation and assessment efforts need to be conducted to meet the total maximum daily load (TMDL) and MFL requirements. |

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| Activity | Status | Comments |
|--|---------|--|
| ECP Research and Data Collection District Contact: Jennifer Jorge | Ongoing | This activity represents the ongoing research and data collection efforts on behalf of the ECP. The Everglades Forever Act and Federal Everglades Settlement Agreement, as well as permits and other legislation mandates require the District to conduct research, monitoring, and modeling activities. |
| Everglades BMP Effectiveness Research District Contact: Pamela Sievers | Ongoing | BMP research provides information on how to efficiently control pollutant releases from agricultural and other developed areas. The particular focus of this activity is on the prevention of phosphorus releases. Projects include research on understanding phosphorus releases from the EAA soils to optimize fertilizer application rates, development of a baseline of water quality data for the C-139 Basin, and evaluation of pesticide releases and toxicity. This activity also developed a chapter on BMPs for the 2001 Everglades Consolidated Report (ECR - SFWMD, 2001a), as required by statute. A summary of SFWMD and IFAS supported work was provided for the ECR report in 2002 (SFWMD, 2002b). District research work is complete; local and university research work is ongoing; District regulatory program will be ongoing |
| 404 Permit Research, Monitoring, and Modeling – Receiving Waters District Contact: Carlos Coronado | Ongoing | This activity assesses impacts of effluents from STAs on water quality (nutrients and toxins), soils, periphyton, and macrophytes. Predischage (baseline) monitoring is complete. Postdischarge monitoring has been initiated. Research on hydrologic/nutrient effects on vegetation and soils is continuing. |
| Water Quality Monitoring – Florida Bay District Contact: Dave Rudnick | Ongoing | This activity supports monitoring of water quality throughout the Florida Bay region and monitoring of sea grass community in northeastern Florida Bay, Manatee Bay, and Barnes Sound. Impacts of changing freshwater flow and releases from the C-111 Canal are being assessed. |
| St. Lucie Estuary / Indian River Lagoon District Contact: Dan Haurert | Ongoing | This activity consists of monitoring, research, and implementation projects in support of the Indian River Lagoon SWIM Plan (SFWMD and SJRWMD, 1994) and the Indian River Lagoon Restoration Feasibility Study. The Indian River Lagoon Restoration Feasibility Study Plan was completed in 2002. USACE Army Corps Division Engineers provided revisions to the document in September 2002 and final authorization by the U.S. Congress is forthcoming. Monitoring, research and implementation activities continue with ad valorem and St. Lucie River Issue Team funding. |
| Lake Okeechobee Research and Data Collection District Contact: Karl Havens | Ongoing | This element includes the research- and monitoring-related activities being conducted in Lake Okeechobee and its watershed. This information is then fed to the planning and implementation projects to ensure that the District's restoration-related activities are based on sound and defensible science. The key activities include in-lake research devoted toward determining the impacts of water level, nutrients, and invasive plants; watershed research dealing with the fate and transport of phosphorus; modeling activities associated with the impacts of phosphorus in the watershed and the lake; BMPs associated with beef cattle operations; water management practices assessment; Lake Istokpoga and Upper Kissimmee Chain-of-Lakes phosphorus source identification; feasibility study and natural resources economic evaluation of alternative nutrient reduction technologies; reservoir STA optimization; residuals and manure land application study; and monitoring activities to assess the effectiveness of the District's restoration efforts. |
| Water Quality Monitoring District Contact: Bahram Charkhian | Ongoing | The Water Quality Monitoring Program generates high quality chemical and physical data for assessing the status of South Florida's water resources, utilizing standardized sampling and analytical procedures. The activities under this element provide data for evaluating water quality conditions and trends, assessing permit compliance and support other District programs. Data reporting provides summaries and written reports on water quality and hydrologic conditions for planning and operations, as well as to meet permit and legally mandated requirements. |
| Lower West Coast Water Quality Monitoring District District Contact: Patricia Burke | Ongoing | This activity encompasses water quality monitoring for LWC estuaries from Cape Romano to the Caloosahatchee River (Florida International University) and the inland water quality monitoring for the Big Cypress Basin (Collier County). |

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| Core Objective WQ 2: Protect and improve ground water quality | | |
|---|--------------|--|
| Planning | | |
| Water Preserve Area Feasibility Study District Contact: Max Day | Discontinued | The Water Preserve Areas (WPAs) are intended to provide regional storage to assist in meeting the future water supply needs of all types of users – agricultural, urban and environmental. The Water Preserve Area Feasibility Study investigated and further developed conceptual designs developed under the C&SF Project Comprehensive Review Study (Restudy). The draft feasibility report was completed in October 2001. In June 2002, a revised strategy was formulated to close out the feasibility study and move forward with nine individual Project Implementation Reports (PIRs) for the 14 WPA components. Individual PMPs will be initiated on an expedited basis between August 2002 and April 2003 for each of these projects. PIRs will be initiated immediately upon completion of the PMPs according to the PMP schedules. |
| Regulation | | |
| Water Use, Application, Compliance, and Criteria Development District Contact: Scott Burns | Ongoing | Water use permitting (consumptive use permitting) is a state mandated program assigned exclusively to the water management districts. The objective is to ensure safe, efficient, equitable, and reliable development of the state's water resources. The major components are 1) review and prepare recommendations for permit applications for all consumptive uses of water within the District boundaries; 2) provide postpermit compliance checks on priority projects based on staffing resources (approximately 300 projects per year); 3) review and issue well construction permits for specific water wells within District boundaries; and 4) perform water conservation rulemaking analysis and make recommendations. This activity also includes prepermit planning, permit issuance, dispute resolution, litigation support, technical support, enforcement, communication with water supply planning activities of this agency, and criteria and rule development. |
| Outreach | | |
| Local Plan Review District Contact: P.K. Sharma | Ongoing | Pursuant to the requirements of Chapters 373 and 163, F.S., the District reviews local government comprehensive plans and amendments, and provides water resources related technical assistance to local governments on their efforts to prepare Evaluation and Appraisal Reports. Efforts to support this activity were significantly upgraded during FY 2002 in support of linking land and water planning. |
| Water Shortage Management District Contact: Bruce Adams | Ongoing | Because of favorable water resource conditions, water shortage orders were rescinded on October 11, 2001, for all areas of the District, except for certain portions of Orange County. The District is currently under rule development for Chapter 40-E21, the Water Shortage rule. Staff has conducted two rounds of public workshops throughout the District on proposed revisions to the rule. |
| Wellhead Protection Programs District Contact: <i>Assigned as Needed by the Water Supply Department</i> | As needed | The FDEP is the agency responsible for this activity. The District will provide assistance to the FDEP and local governments as needed. The FDEP has a number of regulations under the Florida Administrative Code that function to regulate hazardous and solid waste, stormwater discharges, storage tank systems, etc. The primary goal of these legislative policies is to prevent problems before they occur, as contrasted to correcting or providing remedial action for preexisting problems. The intent of these ordinances is to protect and safeguard the health, safety, and welfare of the public by providing criteria for regulating and prohibiting the use, handling, production, and storage of certain deleterious substances that may impair present and future public water supply wells and wellfields. The District has and will continue to provide assistance to local governments in the preparation of their wellfield protection ordinances. No wellhead protection activity has occurred since the last update of the DWMP. |
| Recharge Mapping District Contact: <i>Assigned as Needed by the Water Supply Department</i> | As needed | As directed by Chapter 373, F.S., the District provides ground water recharge information to local governments to assist them with the development and implementation of appropriate water resource policies. In order to accomplish this, the District undertook a project to map recharge areas within its four planning regions. This effort was completed in 1995. The maps delineate precipitation recharge and leakage rates for all the primary public water supply aquifers utilized throughout South Florida. The District has and will provide assistance to local governments in the delineation of prime recharge areas in order to implement voluntary tax assessment programs (under the Bluebelt Act) that protect the state's prime recharge areas. No recharge mapping was performed since the last update of the DWMP. |

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| Monitoring and Evaluation | | |
|---|-----------------|---|
| Wetland Criteria Development and Support District Contact: Deborah Goss | Ongoing | This activity supports the Regulation Program in developing a scientific basis for wetland protection criteria used in water permitting. The activity was originated at the direction of the Governing Board and Executive Office to develop a research and monitoring program to investigate impacts to wetlands caused by water table drawdown and to develop specific recommendations for drawdown criteria that prevent adverse impacts. This information is needed to support rulemaking for District and is a critical element in the implementation of the water supply plans. |
| Lake Okeechobee ASR Pilot Project District Contact: Pete Kwiatkowski | Behind schedule | The Lake Okeechobee ASR Pilot Project Management Plan was approved in March 2001. Test wells have been constructed and hydrogeologic analyses of the wells are scheduled to be completed in FY 2003. |

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Part D. Natural Systems Management

The importance of natural systems management at the District has increased since the 1970s as a result of greater awareness of environmental issues. The land planning and environmental resource protection legislation enacted by the State of Florida over the past 30 years has required the District to place greater emphasis on regional ecosystem management. This portion of the DWMP describes the activities of the District in meeting the requirements of natural systems management. It is comprised of two core natural systems objectives:

Core Objective NS 1: Maintain the integrity and functions of water resources and related natural systems

Core Objective NS 2: Restore degraded water resources and related natural systems to a naturally functioning condition

Table 4. The FY 2002 Status of the DWMP Natural Systems Management Activities

| Activity | Status | Comments |
|--|-------------|---|
| Objective NS 1: Maintain the integrity and functions of water resources and related natural systems | | |
| Planning | | |
| LEC MFLs District Contact: Joel Van Arman | Completed | MFLs have been established for Everglades National Park, the Water Conservation Areas (WCAs), Lake Okeechobee and the Northern Biscayne aquifer (except that portion of the aquifer located in southern Miami-Dade County). This effort was required by Chapter 373, F.S. |
| Rain-Driven Schedules for the Everglades District Contact: Murray Miller | On schedule | The objective of this project is to develop rainfall-based delivery plans for the WCAs and the Rotenberger Wildlife Management Area (WMA) as part of the LEC regional water supply planning process. This activity has both water supply and natural systems components. The relationship between target stages and rainfall is being evaluated statistically for the purpose of developing a rainfall formula (i.e., prediction tool). When completed in 2003, operational testing will begin. Achievement of target stages may be limited based on existing storage and conveyance capacities or legal constraints. |
| Indian River Lagoon Restoration Feasibility Study District Contact: David Unsell | Complete | The final feasibility report was issued through the Division Engineer's Notice in September 2002. The Chief of Engineer's Report should be complete in January 2003. The final feasibility report and the Chief's report will be forwarded to Congress for authorization in 2003. |
| Florida Bay MFLs District Contact: Dave Rudnick | On schedule | This activity is evaluating the hydrologic needs of Florida Bay, leading to the establishment of MFLs for the Bay. This is being accomplished by determining the relationships between the flow of fresh water through the Everglades and salinity in the Bay, and then the effects of high salinity on habitat (seagrass species, distribution, survival and production) and critical animal species. This includes both the collection of new data and the synthesis of existing information from Florida Bay and other estuaries. |
| Southwest Florida Feasibility Study District Contact: Janet Starnes | On schedule | The feasibility study was initiated in August 2001. The PMP was completed and approved in August 2001. Hydrologic models are under development as are performance measures and targets for assessing proposed alternatives. The final feasibility report is scheduled for completion in March 2005. |
| Kissimmee Basin MFL Development District Contact: Jose Valdes | Ongoing | This activity is for the development of MFLs for the Kissimmee Basin. By 2006, MFLs will be developed for the Kissimmee River and the following lakes: Kissimmee, Tohopekaliga, Alligator, Jackson, Rosalie, Cypress, Hatchineha, Pierce, Marian, Fish and Istokpoga. MFLs will be developed by 2008 for the Lake Butler Chain of Lakes. |
| In-Lake Research on Water Level Impacts District Contact: Karl Havens | Ongoing | Research is being conducted to determine operations that will minimize harm to the natural ecosystem of Lake Okeechobee. This research involves controlled experiments, field observations and model development to identify how lake stage affects growth and survival of submerged aquatic vegetation. |

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| Activity | Status | Comments |
|---|-----------------|---|
| Minimum / Maximum Flow Targets District Contact: Marion Hedgepeth | Behind schedule | This project is a joint venture between the District and Palm Beach County Environmental Resources Management. A new hydrodynamic circulation model will be developed to provide a greater understanding of the circulation pattern within the Lake Worth Lagoon. This project will utilize sea grass communities within Lake Worth Lagoon as key indicators of the health and sustainability of ecosystems within the lagoon. A final report was scheduled by June 2002, but the report now is expected from the contractor in November 2002. Public presentations of the results are planned for the Lake Worth Lagoon Steering Committee and the Northern Palm Beach County CERP Project Delivery Team in December 2002 and January 2003. The County is conducting a more detailed bathymetric survey of the lagoon, which will increase the accuracy of the grid; this data set should be available to input into the model by December 2002. |
| Big Cypress Basin Watershed Management Plan District Contact: Ananta Nath | Ongoing | The Big Cypress Basin Watershed Management Plan provides a road map for development of capital projects for the construction and improvement of the facilities presently operated and maintained by the Big Cypress Board that incorporates the natural systems enhancement element in addition to other mission functions of flood control, water supply, water quality and protection. |
| Land Acquisition | | |
| Wetlands Mitigation – K-Mart District Contact: Karen Smith | Ongoing | In lieu of on-site wetland mitigation, the K-Mart mitigation funds are being used to restore freshwater inflows to Pond Apple Slough. Pond Apple Slough is a tidally-influenced, remnant wetland in Broward County with significant habitat value. The project is currently under final design, with construction of the freshwater conveyance system anticipated in 2004. |
| General Land Acquisition District Contact: Fred Davis | Ongoing | This activity will monitor District non-specific land acquisition and disposal projects for other programs throughout the District and for external entities. |
| Stewardship Save Our Rivers (SOR) Lands District Contact: Fred Davis | Ongoing | SOR stewardship will ensure that SOR lands are managed in a manner that is conducive to the maintenance of the integrity and functions of water resources and related natural systems. The activity includes operations and maintenance, development of public use facilities and some mitigation. |
| Wetland Mitigation – Corkscrew Regional Ecosystem Watershed (CREW) District Contact: Marjorie Moore | Ongoing | The 60,000-acre CREW project spans Lee and Collier Counties and is the largest undisturbed watershed in southwestern Florida. CREW wetlands will be acquired and restored through payments from permit applicants who contribute funds to the District in lieu of performing mitigation themselves or purchasing credits from a mitigation bank. |
| Wetlands Mitigation – DuPuis Reserve District Contact: Marjorie Moore | Ongoing | The Dupuis Reserve is a 21,875-acre SOR partnership project located between the J.W. Corbett WMA and Lake Okeechobee. The reserve is actively managed by the District and the Florida Fish and Wildlife Conservation Commission (FWC). The DuPuis wetlands will be restored through payments from permit applicants who contributed funds to the District in lieu of performing mitigation themselves. |
| Wetlands Mitigation – Pennsuco District Contact: Marjorie Moore | Ongoing | The 13,000 acre Pennsuco Wetlands are being acquired and restored through payments from permit applicants who contributed funds to the District in lieu of performing mitigation themselves or purchasing credits from a mitigation bank. |
| Wetlands Mitigation – Shingle Creek District Contact: Marjorie Moore | Ongoing | The Shingle Creek wetlands in southern Orange and northern Osceola Counties are being acquired and restored as mitigation for the Orlando Beltway Southern Connector, its extension and the Western Beltway Part C. To date, 1,600 acres of the 7,655-acre project have been acquired. |
| Wetlands Mitigation – Upper Lakes Basin District Contact: Marjorie Moore | Ongoing | The Upper Lakes Basin wetlands are being managed through payments from permit applicants who contributed funds to the District in lieu of performing mitigation. |

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| Regulation | | |
|--|-------------|---|
| Environmental Resource Permitting (ERP) District Contact: Terrie Bates | Ongoing | This ongoing activity involves the review of environmental resource permit applications. It includes the following: <ul style="list-style-type: none"> • Technical engineering and environmental review and evaluation of construction and conceptual plans for proposed development activities • Recommendations for project design changes to ensure proposed activities meet District criteria for flood, water quality, and environmental protection • Negotiations with permit applicants • Field inspections of project sites requesting permits or wetland determinations • Review of wetland mitigation plans • Preparation of requests for additional information • Preparation of technical staff reports • Compliance review of permitted sites • Compliance review of submitted documents required by permit special conditions • Administrative and automation support critical to the ERP Program |
| Wetland Criteria Development And Support District Contact: Deborah Goss | Ongoing | This activity supports the Regulation Program in developing a scientific basis for wetland protection criteria used in water permitting. The activity was originated at the direction of the Governing Board and Executive Office to develop a research and monitoring program to investigate impacts to wetlands caused by water table drawdown and to develop specific recommendations for drawdown criteria that prevent adverse impacts. This information is needed to support rulemaking for the District and is a critical element in the implementation of the water supply plans. |
| Regulation Model Technology Development/Application District Contact: Jason Yan | Ongoing | This activity supports the Regulation Program in developing computer applications and technology for use in the water use permitting process. |
| Environmental Operations Protocol District Contact: Peter Doering | Ongoing | Rules for low-level releases of water from Lake Okeechobee to the St. Lucie and Caloosahatchee Estuaries are being developed through this activity. Recently developed hydrodynamic models are being used to predict outcomes of different rule scenarios. |
| Lake Okeechobee Research And Data Collection District Contact: Karl Havens | Ongoing | This element includes the research- and monitoring-related activities being conducted in Lake Okeechobee and its watershed. This information is then used when projects are planned and implemented to ensure the District's restoration-related activities are based on sound and defensible science. The key activities include in-lake research on the impacts of water level, nutrients, and invasive plants; watershed research on the fate and transport of phosphorus; modeling activities associated with the impacts of phosphorus in the watershed and the lake; BMPs associated with beef cattle operations; water management practices assessment; Lake Istokpoga and Upper Kissimmee Chain-of-Lakes phosphorus source identification; feasibility study and natural resources economic evaluation of alternative nutrient reduction technologies; reservoir STA optimization; residuals and manure land application study; and monitoring activities to assess the effectiveness of restoration efforts. |
| Monitoring and Evaluation | | |
| Indian River Lagoon Sea Grass Monitoring District Contact: Becky Robbins | Ongoing | Sea grasses have been identified as a valued ecosystem component for the Indian River Lagoon. This effort will obtain a current inventory of sea grass resources, identify healthy areas that may deserve special protection efforts, and identify potential problem areas that require further investigation. |
| Objective NS 2: Restore degraded water resources and related natural systems to a naturally functioning condition | | |
| Planning | | |
| Lake Okeechobee SWIM Plan Implementation District Contact: Kim O'Dell | Ongoing | This activity includes work required to insure that <i>the Surface Water Improvement and Management (SWIM) Plan – Update for Lake Okeechobee</i> (SFWMD, 1997) is implemented. A plan update was completed in 2002. |
| Rain-Driven Schedules for the Everglades District Contact: Murray Miller | On schedule | The objective of this project is to develop rainfall-based delivery plans for the WCAs and the Rotenberger WMA as part of the LEC regional water supply planning process. This activity has both water supply and natural systems components. Work plan assessment tools and a rainfall formula are being developed and water supply alternatives are being modeled. Implementation of the plan is targeted for FY 2003. |

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| Establish Ecological and Hydrologic Needs for the Everglades Protection Area District Contact: Fred Sklar | On schedule | The effects of water level, flow, and water quality on key performance measures of sloughs and wet prairies will be determined through this activity. Plant community structure and productivity will be measured and recommendations for the restoration of these communities will be made. RECOVER (Restoration Coordination and Verification) conceptual models will be assessed through measurements of baseline status, history, and development of ridge and slough landscape. |
| South Miami-Dade County Integrated Water Resource Strategy | Discontinued | This activity was eliminated due to budget constraints. |
| Biscayne Bay SWIM Plan Update District Contact: Trisha Stone | Ongoing | The last update of the Biscayne Bay SWIM Plan was published in 1995 (SFWMD, 1995). State and local policies and funding changes implemented over the past five years have affected the District's SWIM program. As a result, the District is presently relying on efforts other than SWIM to lead protection and restoration efforts on priority water bodies and for identifying District priority projects. In 2000, a process called the Biscayne Bay Partnership Initiative (BBPI) was initiated. Various BBPI committees made recommendations for the protection, improvement and enhancement of the Bay's resources and its social, economic and natural values, with its ecological health as a priority. In 2001 and 2002, the Florida Legislature appropriated \$6 million and \$11.5 million respectively to be administered by the District for the improvement of Biscayne Bay based on these recommendations. |
| Land Acquisition | | |
| Kissimmee River Restoration Land Acquisition District Contact: Bob Schaeffer | Ongoing | This activity will enable the District to acquire the remaining approximately 15,000 acres of fee ownerships and flowage easements (as applicable) for the Kissimmee River Restoration Project by the specified deadline. This element includes costs for specified infrastructure relocations (e.g., highways). |
| Public Works Construction | | |
| C-4 Water Control Structure Critical Project (formerly, Western C-4 Structure Critical Project) District Contact: Jorge Marban | Behind schedule (revised schedule) | Plans and specifications were completed in July 2000. Construction began in November 2000 and is expected to be completed in February 2003. |
| Western Tamiami Trail Culverts Critical Project (formerly, Tamiami Trail Culverts (West) Critical Project) District Contact: Clarence Tears | On schedule (revised schedule) | Pre-final submittal of design, plans and specifications are complete. Water quality certification and Right-of-Way permits are in process. The construction contract is expected to be awarded in July 2003 and completed in October 2005. |
| Lake Trafford Restoration Critical Project (formerly, Lake Trafford Restoration) District Contact: Clarence Tears | Behind schedule / On Hold | The construction bid amounts were significantly higher than the estimated cost. Additional sediment testing and dredging methods are being completed in 2002 to explore the feasibility of achieving lake restoration benefits with a lesser volume of dredging. |
| C-111 Project Implementation District Contact: Paul Linton | On schedule | The C-111 Project consists of both structural and nonstructural modifications to the existing works within the C-111 Basin to promote more natural hydroperiods in Taylor Slough and the eastern panhandle ecosystems of Everglades National Park. Flood protection within the C-111 Basin east of the L-31N and C-111 Canals will be maintained. The land acquisition is 90% complete. The general reevaluation report supplement is under development. |
| Modified Water Deliveries District Contact: Paul Linton | On schedule | This activity will implement the Modified Water Deliveries Project, which is designed to restore hydrologic balance between western Shark River Slough and northeastern Shark River Slough. This will benefit Everglades National Park flora. The detailed design of the recommended plan has been initiated. |
| Florida Keys Tidal Restoration District Contact: Dewey Worth | Behind schedule | The PMP was completed and the PIR process was initiated in April 2002. Performance measures are being developed. The PIR process is expected to be completed in September 2004. |

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| S-356 Structures (Miami-Dade County) District Contact: Dewey Worth | On schedule - not yet started | This activity is part of the Everglades National Park Seepage Management Project. The project is scheduled to begin in FY 2006. |
| Additional S-345 Structures District Contact: Dewey Worth | On schedule - not yet started | This is part of the WCA-3 Decompartmentalization and Sheetflow Enhancement - Part 2 Project. It is scheduled to begin in FY 2006. |
| G-404 Pump Station Modifications District Contact: Dewey Worth | On schedule - not yet started | This is part of the Flow to Northwest and Central WCA-3A Project. It is scheduled to begin in FY 2003. |
| Southern Golden Gate Estates Hydrologic Restoration District Contact: Ananta Nath | Behind schedule | A conceptual restoration plan was developed in 1996 and submitted to the Governor's Office. The PMP was approved in March 2001. The PIR is scheduled for completion in July 2003. |
| Lake Worth Lagoon Restoration District Contact: Michael Voich | On schedule (Revised schedule) | This is part of the North Palm Beach County - Part 1 Project. Work is in progress to complete the project management plan. Approval was granted to move forward with work on the PIR prior to approval of the project management plan. |
| Kissimmee River Restoration Design | Combined with the project below | |
| Kissimmee River Restoration Engineering Designs and Implementation District Contact: Sally Kennedy | Ongoing | The Kissimmee River Restoration Project is a partnership effort with the USACE. Phase II/III and IV canal backfilling in C-38 will occur after all flood mitigation, road and bridge retrofits and relocations are designed and constructed to maintain existing level of flood protection. Project completion is scheduled for 2012. |
| Operations and Maintenance | | |
| Everglades Exotic Species Control District Contact: Dan Thayer | Ongoing | This activity provides for the elimination and monitoring of exotic plants within the Everglades. The biannual survey showed that melaleuca is decreasing, Australian pine and Brazilian pepper are stable, and lygodium is increasing. |
| Holey Land WMA Regulation Schedule District Contact: Lewis Hornung | Revised schedule | This project consists of a modification to the current operating plan for the Holey Land WMA. The project is scheduled to begin in FY 2004. |
| Rotenberger Regulation Schedule District Contact: Lewis Hornung | Revised schedule | This project consists of a modification to the current operating plan for the Rotenberger WMA. This project is scheduled to begin in FY 2004. |
| Lake Okeechobee Exotic Control District Contact: Dan Thayer | Ongoing | This activity is for control of exotics within Lake Okeechobee. Control of melaleuca and torpedograss, along with other exotic plants, is critical for the preservation and restoration of Lake Okeechobee. If not managed, plants like torpedo grass form dense monocultures, displacing all other plant communities. |
| Monitoring and Evaluation | | |
| STA / Everglades Nutrient Removal (ENR) Project Optimization, Research, and Modeling District Contact: Jennifer Jorge | On schedule | This activity includes: field collection and laboratory analysis of water quality, vegetation, and sediment samples associated with research and monitoring efforts of the ENR Project; development and implementation of the Wetland Water Quality Model; analysis of nutrient removal performance data from other South Florida wetlands; and optimization experiments that will be conducted in the ENR test cells. This work is a part of the District's STA Optimization Research Program. The District is mandated by the Everglades Forever Act to conduct research on optimizing performance of the STAs. |
| Florida Bay Research – Sea Grass Mortality and Algal Blooms District Contact: Dave Rudnick | On schedule | This research activity will measure the effects changes in timing and the amount of freshwater flow to Florida Bay has on sea grass habitat viability and restoration. This activity will also measure algal bloom response, including spatial extent, persistence, occurrence of harmful blooms, and impacts on other living resources (benthos, sea grasses, and fisheries). This activity will also provide recommendations on water management operations that will achieve the restoration of habitat and water quality within Florida Bay. |

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| Florida Bay – Ecological Response to Restoration Activities District Contact: Dave Rudnick | On schedule | This activity is assessing the hydrologic needs of northern Florida Bay and the southeastern Everglades (including the mangrove dominated salinity transition zone) and determining the ecological response of the region to ongoing restoration projects, including the C-111 Project, Modified Water Deliveries to Everglades National Park, and changing operational plans (IOP, CSOP). Ecological, water quality and hydrologic parameters are measured in the region to evaluate their relationships and trends. Research includes the measurement of nutrient inputs from the C&SF Project; determination of nutrient cycles (transport, transformation, retention and release) in the wetlands, the salinity transition zone, and in the Bay; and the determination of nutrient loading to Florida Bay. In the C-111 Basin and Taylor Slough, plant community composition and productivity and soil accretion or loss are being measured. Spatial and temporal changes in periphyton and water quality conditions in response to hydrologic restoration in the southern Everglades are also being monitored. |
| Kissimmee Basin Restoration and Assessment District Contact: Lou Toth | Ongoing | Research and evaluation data will be used to evaluate the success of the Kissimmee River Restoration Project, fine tune reconstruction phases, and provide for adaptive management of the restored ecosystem. Outputs include publications, technical reports, and presentations. Preconstruction baseline monitoring and evaluation has been completed and post Phase I reconstruction monitoring has been initiated. An independent scientific advisory panel has met to review the baseline information and has provided a peer review. The panel was generally complimentary on the progress to date. |
| Everglades Food Web/Wading Birds Hydrologic Effect District Contact: Dale Gawlik | Ongoing | This effort will generate a series of scientific publications including: analysis of systematic reconnaissance flight wading bird surveys from former contracts and other agencies to determine wading bird distributions and identify depth thresholds that preclude wading birds from feeding successfully; scientific publication examining the amount of movement various species of wading birds exhibit as an indication of how likely they are to be affected by local restoration projects; reports and scientific publications that define fish and aquatic macroinvertebrate populations in the WCAs; scientific publications containing recommendations for water depths and durations that promote the existence of healthy tree islands and associated wildlife; annual reports on the numbers of nesting wading birds in South Florida (<i>South Florida Wading Bird Report</i>); and scientific publications of test cell experiments to identify the optimum and minimum water depths necessary for successful foraging. |
| Hydrologic Monitoring District Contact: Robb Startzman | Ongoing | This effort includes long-term hydrometeorologic data collection, database management, routine data reporting and data evaluation activities. Features of these activities include installation of new sites, maintenance of existing sites, data collection, processing and archiving and maintenance of the environmental corporate database for storage and access to these data. These data document the operation of the C&SF Project, provide data for the CERP, for Kissimmee River, Everglades, Florida Bay and Lake Okeechobee restoration, and for water supply planning and implementation. |
| Monitoring and Evaluation (RECOVER) District Contact: John Ogden | Ongoing | The program management plan for RECOVER was completed in May 2001, and will be updated by the second quarter of FY 2003. A revised draft of the Systemwide Monitoring and Assessment Plan was completed in October 2002. An annual report card is scheduled to be issued in January 2003. Habitat suitability indices used to define the quality of the habitat for various fish and other wildlife species are being developed and should be published in early 2003. A standardized project evaluation methodology is being developed in consultation with outside technical experts. A report on a recommended set of indicators for CERP interim goals will be issued by January 2003. RECOVER is hosting a set of workshops to develop an Adaptive Assessment Methodology as a basis for developing an Adaptive Management Program (to be documented in a CERP Guidance Memorandum) by June 2003. |
| Lake Okeechobee Research And Data Collection District Contact: Karl Havens | Ongoing | This element includes the research- and monitoring-related activities being conducted in Lake Okeechobee and its watershed. This information is then used when projects are planned and implemented to ensure the District's restoration-related activities are based on sound and defensible science. The key activities include in-lake research on the impacts of water level, nutrients, and invasive plants; watershed research on the fate and transport of phosphorus; modeling activities associated with the impacts of phosphorus in the watershed and the lake; BMPs associated with beef cattle operations; water management practices assessment; Lake Istokpoga and Upper Kissimmee Chain-of-Lakes phosphorus source identification; feasibility study and natural resources economic evaluation of alternative nutrient reduction technologies; reservoir STA optimization; residuals and manure land application study; and monitoring activities to assess the effectiveness of restoration efforts. |